

SEQUENCE LISTING

<110> EVANS, Donald L. et al.

<120> Novel Teleost Derived Antimicrobial Polypeptides

<130> G25-085US Nat

<140> US 10/588,417

<141> 2005-02-18

<150> PCT/US05/05398

<151> 2005-02-18

<150> US 60/545,370

<151> 2004-02-18

<150> US 60/623,909

<151> 2004-11-01

<160> 32

<170> PatentIn version 3.4

<210> 1

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Peptide

<400> 1

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Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
20 25 30

<210> 2

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Peptide

<400> 2

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
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<210> 3

<211> 203
 <212> PRT
 <213> Ictalurus punctatus

<400> 3

Met Ser Ala Gln Ala Glu Glu Thr Ala Pro Glu Ala Ala Ala Pro Val
 1 5 10 15

Gln Pro Ser Gln Pro Ala Ala Lys Lys Lys Gly Pro Ala Ser Lys Ala
 20 25 30

Lys Pro Ala Ser Ala Glu Lys Lys Asn Lys Lys Lys Lys Gly Lys Gly
 35 40 45

Pro Gly Lys Tyr Ser Gln Leu Val Ile Asn Ala Ile Gln Thr Leu Gly
 50 55 60

Glu Arg Asn Gly Ser Ser Leu Phe Lys Ile Tyr Asn Glu Ala Lys Lys
 65 70 75 80

Val Asn Trp Phe Asp Gln Gln His Gly Arg Val Tyr Leu Arg Tyr Ser
 85 90 95

Ile Arg Ala Leu Leu Gln Asn Asp Thr Leu Val Gln Val Lys Gly Leu
 100 105 110

Gly Ala Asn Gly Ser Phe Lys Leu Asn Lys Lys Lys Phe Ile Pro Arg
 115 120 125

Thr Lys Lys Ser Ser Val Lys Pro Arg Lys Thr Ala Lys Pro Thr Lys
 130 135 140

Lys Pro Ala Lys Lys Ala Ala Lys Lys Lys Lys Arg Val Ser Gly Val
 145 150 155 160

Lys Lys Ala Thr Pro Pro Pro Glu Lys Thr Ser Lys Pro Lys Lys Ala
 165 170 175

Asp Lys Ser Pro Ala Val Ser Ala Lys Lys Ala Ser Lys Pro Lys Lys
 180 185 190

Ala Lys Gln Thr Lys Lys Thr Ala Lys Lys Thr
 195 200

<210> 4
 <211> 956
 <212> DNA
 <213> Ictalurus punctatus

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 ccaaaaagaa gggacccgcc agtaaagcaa agcctgcctc tgcagaaaaa aagaacaaaa 180
 agaagaaagg gaaagggccc ggaaagtaca gccagctggg gatcaatgct atccaaacgc 240
 tgggagagag aaacggctcg tctcttttta agatctacaa cgaggcgaag aaagtgaact 300
 ggtttgacca gcagcacggg cgcgtgtacc tccgtactc catccgcgcg ctgctgcaga 360
 acgacacgct cgtgcagggt aagggctctgg gcgccaacgg ctcttcaag ctcaacaaaa 420
 agaagttcat ccccagaacc aagaagagct ctgtaaagcc gagaaagact gcgaaaccga 480
 ccaaaaagcc agccaaaaaa gcagcgaaga agaagaaaag ggtcagcggc gtgaagaagg 540
 cgactcccc cccagagaaa acctccaaac ccaagaaagc ggataaaagt ccagccgtct 600
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 cttaaaacgt ttatattctg catgctttgt gcattaagca ttgcactgcg ggtaaaactgc 720
 acgctttctg atcgcagttc attaagtagg atatgcacag tgtttaacca agtgtgcaag 780
 tcactctggg ctcaatgttt tactgatgta accacatgta aataactgta caaagaagga 840
 aacaatcact ttgtaacgt ctgctttgtt attatttctt ttctactagt tagctaaaat 900
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<210> 5
 <211> 956
 <212> DNA
 <213> Ictalurus punctatus

<220>
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Ser	Ala	Gln	Ala	Glu	Glu	Thr	Ala	Pro	Glu	Ala	Ala	Ala	Pro	Val	Gln	
		5						10					15			
cca	tca	caa	cca	gcg	gcc	aaa	aag	aag	gga	ccc	gcc	agt	aaa	gca	aag	152
Pro	Ser	Gln	Pro	Ala	Ala	Lys	Lys	Lys	Gly	Pro	Ala	Ser	Lys	Ala	Lys	
		20					25				30					
cct	gcc	tct	gca	gaa	aaa	aag	aac	aaa	aag	aag	aaa	ggg	aaa	ggg	ccc	200
Pro	Ala	Ser	Ala	Glu	Lys	Lys	Asn	Lys	Lys	Lys	Lys	Gly	Lys	Gly	Pro	
		35				40					45					
gga	aag	tac	agc	cag	ctg	gtg	atc	aat	gct	atc	caa	acg	ctg	gga	gag	248
Gly	Lys	Tyr	Ser	Gln	Leu	Val	Ile	Asn	Ala	Ile	Gln	Thr	Leu	Gly	Glu	
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aga	aac	ggc	tcg	tct	ctt	ttt	aag	atc	tac	aac	gag	gcg	aag	aaa	gtg	296
Arg	Asn	Gly	Ser	Ser	Leu	Phe	Lys	Ile	Tyr	Asn	Glu	Ala	Lys	Lys	Val	
				70				75						80		
aac	tgg	ttt	gac	cag	cag	cac	ggg	cgc	gtg	tac	ctc	cgc	tac	tcc	atc	344
Asn	Trp	Phe	Asp	Gln	Gln	His	Gly	Arg	Val	Tyr	Leu	Arg	Tyr	Ser	Ile	
			85				90						95			
cgc	gcg	ctg	ctg	cag	aac	gac	acg	ctc	gtg	cag	gtg	aag	ggg	ctg	ggc	392
Arg	Ala	Leu	Leu	Gln	Asn	Asp	Thr	Leu	Val	Gln	Val	Lys	Gly	Leu	Gly	
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Ala	Asn	Gly	Ser	Phe	Lys	Leu	Asn	Lys	Lys	Lys	Phe	Ile	Pro	Arg	Thr	
		115				120					125					
aag	aag	agc	tct	gta	aag	ccg	aga	aag	act	gcg	aaa	ccg	acc	aaa	aag	488
Lys	Lys	Ser	Ser	Val	Lys	Pro	Arg	Lys	Thr	Ala	Lys	Pro	Thr	Lys	Lys	
					135				140						145	
cca	gcc	aaa	aaa	gca	gcg	aag	aag	aag	aaa	agg	gtc	agc	ggc	gtg	aag	536
Pro	Ala	Lys	Lys	Ala	Ala	Lys	Lys	Lys	Lys	Arg	Val	Ser	Gly	Val	Lys	
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aag	gcg	act	ccc	ccc	cca	gag	aaa	acc	tcc	aaa	ccc	aag	aaa	gcg	gat	584
Lys	Ala	Thr	Pro	Pro	Pro	Glu	Lys	Thr	Ser	Lys	Pro	Lys	Lys	Ala	Asp	
			165					170						175		
aaa	agt	cca	gcc	gtc	tct	gcc	aag	aag	gcg	agc	aag	ccc	aag	aaa	gct	632
Lys	Ser	Pro	Ala	Val	Ser	Ala	Lys	Lys	Ala	Ser	Lys	Pro	Lys	Lys	Ala	
		180					185					190				
aaa	cag	aca	aaa	aag	act	gct	aag	aag	act	taaaacgttt	atattctgca					682
Lys	Gln	Thr	Lys	Lys	Thr	Ala	Lys	Lys	Thr							
		195				200										
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ctgatgtaac	cacatgtaaa	taactgtaca	aagaaggaaa	caatcacttt	tgtaacgtct											862

gctttgttat tatttctttt ctactagtta gctaaaataa ctgcttatgg cttcttttaa 922
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<210> 6
<211> 203
<212> PRT
<213> Ictalurus punctatus

<400> 6

Met Ser Ala Gln Ala Glu Glu Thr Ala Pro Glu Ala Ala Ala Pro Val
1 5 10 15

Gln Pro Ser Gln Pro Ala Ala Lys Lys Lys Gly Pro Ala Ser Lys Ala
20 25 30

Lys Pro Ala Ser Ala Glu Lys Lys Asn Lys Lys Lys Lys Gly Lys Gly
35 40 45

Pro Gly Lys Tyr Ser Gln Leu Val Ile Asn Ala Ile Gln Thr Leu Gly
50 55 60

Glu Arg Asn Gly Ser Ser Leu Phe Lys Ile Tyr Asn Glu Ala Lys Lys
65 70 75 80

Val Asn Trp Phe Asp Gln Gln His Gly Arg Val Tyr Leu Arg Tyr Ser
85 90 95

Ile Arg Ala Leu Leu Gln Asn Asp Thr Leu Val Gln Val Lys Gly Leu
100 105 110

Gly Ala Asn Gly Ser Phe Lys Leu Asn Lys Lys Lys Phe Ile Pro Arg
115 120 125

Thr Lys Lys Ser Ser Val Lys Pro Arg Lys Thr Ala Lys Pro Thr Lys
130 135 140

Lys Pro Ala Lys Lys Ala Ala Lys Lys Lys Lys Arg Val Ser Gly Val
145 150 155 160

Lys Lys Ala Thr Pro Pro Pro Glu Lys Thr Ser Lys Pro Lys Lys Ala
165 170 175

Asp Lys Ser Pro Ala Val Ser Ala Lys Lys Ala Ser Lys Pro Lys Lys

180

185

190

Ala Lys Gln Thr Lys Lys Thr Ala Lys Lys Thr
 195 200

<210> 7
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 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Peptide

<400> 7

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 1 5 10 15

Gly Gly Gly Gly
 20

<210> 8
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Peptide

<400> 8

Thr Cys Gly Thr Cys Gly Thr Thr Gly Thr Cys Gly Thr Thr Gly Thr
 1 5 10 15

Cys Gly Thr Thr
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<210> 9
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Peptide

<400> 9

Cys Cys Cys Cys Cys Cys Cys Cys Cys Cys Cys Cys Cys Cys Cys
 1 5 10 15

Cys Cys Cys Cys
20

<210> 10
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Peptide

<400> 10

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
1 5 10 15

Ala Ala Ala Ala
20

<210> 11
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Peptide

<400> 11

Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr
1 5 10 15

Thr Thr Thr Thr
20

<210> 12
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Peptide

<400> 12

Thr Gly Cys Thr Gly Cys Thr Thr Gly Thr Gly Cys Thr Thr Gly Thr
1 5 10 15

Gly Cys Thr Thr
20

<210> 13
 <211> 192
 <212> PRT
 <213> Danio rerio

<400> 13

Met Pro Ala Val Val Glu Glu Ser Ala Pro Ala Pro Ala Pro Ala Pro
 1 5 10 15

Ala Glu Lys Lys Ala Lys Pro Ala Val Ala Ala Ser Pro Ala Lys Lys
 20 25 30

Lys Lys Lys Lys Ser Lys Gly Pro Gly Lys Tyr Ser Lys Leu Val Thr
 35 40 45

Asp Ala Ile Arg Thr Leu Gly Glu Lys Asn Gly Ser Ser Leu Phe Lys
 50 55 60

Ile Tyr Asn Glu Ala Lys Lys Val Ser Trp Phe Asp Gln Lys Asn Gly
 65 70 75 80

Arg Met Tyr Leu Arg Ala Ser Ile Arg Ala Leu Val Leu Asn Asp Thr
 85 90 95

Leu Val Gln Val Lys Gly Phe Gly Ala Asn Gly Ser Phe Lys Leu Asn
 100 105 110

Lys Lys Lys Leu Glu Lys Lys Pro Lys Lys Ala Ala Ser Lys Lys Ala
 115 120 125

Thr Lys Lys Thr Glu Lys Pro Thr Ser Lys Lys Ala Val Thr Lys Lys
 130 135 140

Val Ser Ala Lys Lys Ser Ala Lys Lys Ser Pro Val Lys Lys Lys Thr
 145 150 155 160

Pro Lys Lys Thr Ser Val Lys Lys Ala Thr Ala Lys Pro Lys Lys Thr
 165 170 175

Ala Ser Lys Lys Pro Lys Ala Ala Ala Lys Lys Lys Thr Lys Ser Lys
 180 185 190

<210> 14

<211> 217
 <212> PRT
 <213> *Xenopus laevis*

<400> 14

Met Ala Leu Glu Leu Glu Glu Asn Leu His Ser Thr Glu Glu Glu Asp
 1 5 10 15

Glu Glu Glu Glu Glu Glu Glu Gly Asp Glu Met Arg Ser Arg Ser Thr
 20 25 30

Arg Asn Lys Gly Gly Ala Ala Ser Ser Ser Gly Asn Lys Lys Lys Lys
 35 40 45

Lys Lys Lys Asn Gln Pro Gly Arg Tyr Ser Gln Leu Val Val Asp Thr
 50 55 60

Ile Arg Lys Leu Gly Glu Arg Asn Gly Ser Ser Leu Ala Lys Ile Tyr
 65 70 75 80

Ser Glu Ala Lys Lys Val Ser Trp Phe Asp Gln Gln Asn Gly Arg Thr
 85 90 95

Tyr Leu Lys Tyr Ser Ile Lys Ala Leu Val Gln Asn Asp Thr Leu Leu
 100 105 110

Gln Val Lys Gly Val Gly Ala Asn Gly Ser Phe Arg Leu Asn Lys Lys
 115 120 125

Lys Leu Glu Gly Leu Pro Tyr Asp Lys Lys Pro Pro Pro Ala Lys Pro
 130 135 140

Ser Ser Ser Ser Ser Ser Asn Lys Lys Gln Gln Gln Gly Pro Ser Ser
 145 150 155 160

Ser Pro Ser Lys Ser His Lys Lys Ala Lys Pro Lys Ala Lys Ala Glu
 165 170 175

Lys Glu Lys Pro Lys Thr Ser Ser Ala Lys Ala Lys Ser Pro Lys Lys
 180 185 190

Ser Ala Ala Lys Gly Lys Lys Met Lys Lys Gly Ala Lys Pro Ser Val
 195 200 205

Arg Lys Ala Pro Lys Ser Lys Lys Ala
210 215

<210> 15
<211> 188
<212> PRT
<213> Mus

<400> 15

Met Ser Val Glu Leu Glu Glu Ala Leu Pro Pro Thr Ser Ala Asp Gly
1 5 10 15

Thr Ala Arg Lys Thr Ala Lys Ala Gly Gly Ser Ala Ala Pro Thr Gln
20 25 30

Pro Lys Arg Arg Lys Asn Arg Lys Lys Asn Gln Pro Gly Lys Tyr Ser
35 40 45

Gln Leu Val Val Glu Thr Ile Arg Lys Leu Gly Glu Arg Gly Gly Ser
50 55 60

Ser Leu Ala Arg Ile Tyr Ala Glu Ala Arg Lys Val Ala Trp Phe Asp
65 70 75 80

Gln Gln Asn Gly Arg Thr Tyr Leu Lys Tyr Ser Ile Arg Ala Leu Val
85 90 95

Gln Asn Asp Thr Leu Leu Gln Val Lys Gly Thr Gly Ala Asn Gly Ser
100 105 110

Phe Lys Leu Asn Arg Lys Lys Leu Glu Gly Gly Ala Glu Arg Arg Gly
115 120 125

Ala Ser Ala Ala Ser Ser Pro Ala Pro Lys Ala Arg Thr Ala Ala Ala
130 135 140

Asp Arg Thr Pro Ala Arg Pro Gln Pro Glu Arg Arg Ala His Lys Ser
145 150 155 160

Lys Lys Ala Ala Ala Ala Ala Ser Ala Lys Lys Val Lys Lys Ala Ala
165 170 175

Lys Pro Ser Val Pro Lys Val Pro Lys Gly Arg Lys

180

185

<210> 16
 <211> 213
 <212> PRT
 <213> Homo sapiens

<400> 16

Met Ser Val Glu Leu Glu Glu Ala Leu Pro Val Thr Thr Ala Glu Gly
 1 5 10 15

Met Ala Lys Lys Val Thr Lys Ala Gly Gly Ser Ala Ala Leu Ser Pro
 20 25 30

Ser Lys Lys Arg Lys Asn Ser Lys Lys Lys Asn Gln Pro Gly Lys Tyr
 35 40 45

Ser Gln Leu Val Val Glu Thr Ile Arg Arg Leu Gly Glu Arg Asn Gly
 50 55 60

Ser Ser Leu Ala Lys Ile Tyr Thr Glu Ala Lys Lys Val Pro Trp Phe
 65 70 75 80

Asp Gln Gln Asn Gly Arg Thr Tyr Leu Lys Tyr Ser Ile Lys Ala Leu
 85 90 95

Val Gln Asn Asp Thr Leu Leu Gln Val Lys Gly Thr Gly Ala Asn Gly
 100 105 110

Ser Phe Lys Leu Asn Arg Lys Lys Leu Glu Gly Gly Gly Glu Arg Arg
 115 120 125

Gly Ala Pro Ala Ala Ala Thr Ala Pro Ala Pro Thr Ala His Lys Ala
 130 135 140

Lys Lys Ala Ala Pro Gly Ala Ala Gly Ser Arg Arg Ala Asp Lys Lys
 145 150 155 160

Pro Ala Arg Gly Gln Lys Pro Glu Gln Arg Ser His Lys Lys Gly Ala
 165 170 175

Gly Ala Lys Lys Asp Lys Gly Gly Lys Ala Lys Lys Thr Ala Ala Ala
 180 185 190

Gly Gly Lys Lys Val Lys Lys Ala Ala Lys Pro Ser Val Pro Lys Val
 195 200 205

Pro Lys Gly Arg Lys
 210

<210> 17
 <211> 15
 <212> PRT
 <213> Mus

<400> 17

Ser Glu Thr Ala Pro Ala Glu Lys Pro Ala Pro Ala Lys Ala Glu
 1 5 10 15

<210> 18
 <211> 25
 <212> PRT
 <213> Homo sapiens

<400> 18

Lys Leu Asn Lys Lys Ala Ala Ser Gly Glu Ala Lys Pro Lys Ala Lys
 1 5 10 15

Ala Lys Ser Pro Lys Lys Ala Lys Ala
 20 25

<210> 19
 <211> 17
 <212> PRT
 <213> Trout

<400> 19

Lys Ala Val Ala Ala Lys Lys Ser Pro Lys Lys Ala Lys Lys Pro Ala
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Thr

<210> 20
 <211> 19
 <212> PRT
 <213> Catfish

<400> 20

Lys Gly Arg Gly Lys Gln Gly Gly Lys Val Arg Ala Lys Ala Lys Thr
 1 5 10 15

Arg Ser Ser

<210> 21
 <211> 20
 <212> PRT
 <213> Trout

<220>
 <221> misc_feature
 <222> (19)..(19)
 <223> Xaa can be any naturally occurring amino acid

<400> 21

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Thr Lys Xaa Ala
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<210> 22
 <211> 17
 <212> PRT
 <213> Bass

<400> 22

Pro Glu Pro Ala Lys Ser Ala Pro Lys Lys Gly Ser Lys Lys Ala Val
 1 5 10 15

Thr

<210> 23
 <211> 22
 <212> PRT
 <213> Bass

<400> 23

Pro Asp Pro Ala Pro Lys Thr Ala Pro Lys Lys Gly Ser Lys Lys Ala
 1 5 10 15

Val Thr Lys Thr Ala Gly
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<210> 24
<211> 26
<212> PRT
<213> Trout

<400> 24

Ala Glu Val Ala Pro Ala Pro Ala Ala Ala Pro Ala Lys Ala Pro
1 5 10 15

Lys Lys Lys Ala Ala Ala Lys Pro Lys Lys
20 25

<210> 25
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Peptide

<400> 25

Ala Lys Lys Ala
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<210> 26
<211> 11
<212> PRT
<213> Ictalurus punctatus

<400> 26

Gly Ala Ser Gly Ser Phe Lys Leu Asn Lys Lys
1 5 10

<210> 27
<211> 21
<212> PRT
<213> Bacteria

<400> 27

Ala Tyr Ser Leu Gln Met Gly Ala Thr Ala Ile Lys Gln Val Lys Lys
1 5 10 15

Leu Phe Lys Lys Trp
20

<210> 28
<211> 28
<212> PRT
<213> Moth

<400> 28

Pro Lys Trp Lys Leu Phe Lys Lys Ile Glu Lys Val Gly Gln Asn Ile
1 5 10 15

Arg Asp Gly Ile Ile Lys Ala Gly Pro Ala Val Ala
20 25

<210> 29
<211> 22
<212> PRT
<213> Spider

<400> 29

Phe Lys Phe Leu Ala Lys Lys Val Ala Lys Thr Val Ala Lys Gln Ala
1 5 10 15

Ala Lys Gln Gly Ala Lys
20

<210> 30
<211> 22
<212> PRT
<213> Toad

<400> 30

Ala Gly Arg Gly Lys Gln Gly Gly Lys Val Arg Ala Lys Ala Lys Thr
1 5 10 15

Arg Ser Ser Arg Ala Gly
20

<210> 31
<211> 23
<212> PRT
<213> Frog

<400> 31

Gly Ile Gly Lys Phe Leu His Ser Ala Lys Lys Phe Gly Lys Ala Phe
1 5 10 15

Val Gly Glu Ile Met Asn Ser

20

<210> 32
<211> 30
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (23)..(23)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> misc_feature
<222> (26)..(26)
<223> Xaa can be any naturally occurring amino acid

<400> 32

Lys Ala Pro Arg Lys Gln Leu Ala Thr Pro Glu Pro Ala Lys Ser Ala
1 5 10 15

Pro Ala Pro Lys Lys Gly Xaa Lys Lys Xaa Val Thr Lys Ala
20 25 30